

Project Report

Mainstreaming Standardized Sustainability Reporting: Comparing Fortune 50 Corporations' and U.S. News & World Report's Top 50 Global Universities' Sustainability Reports

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Abstract: Research has shown that sustainability reporting can positively influence organizational accountability and transparency. However, little research has been done to compare how sectors present their sustainability efforts. This research uses content analysis to examine how the two sectors leading reporting efforts detail their work. Specifically, sustainability reports published in 2020 were sought from the Fortune 50 and the top 50 institutions from U.S. News & World Report (USNWR)'s Best Global University rankings to examine compliance with the standard reporting frameworks and how the United Nations Sustainable Development Goals were presented. Results suggest Fortune 500 companies and educational institutions did not report sustainability in the same fashion, nor did either grouping follow a standardized reporting framework. For-profit corporations were more likely to publish a stand-alone sustainability report and more likely to address more of the United Nations' Sustainable Development Goals.



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1. Introduction

To combat COVID-19's lasting impact on the economy, human and health services, and ongoing environmental changes will require a concerted effort among the public, private, and social sectors. COVID-19 has accentuated the urgency and importance of reporting non-financial information on aspects such as environment, human health, and social impact. Thus, it serves as a wakeup call for businesses that have not joined the act. In a recent study, Hassan et al. said, "We recommend an urgent need for mandatory integrated reporting" [1] (p. 1237). Another study noted that it was necessary for corporate reports to provide information so that organizational stakeholders know the immediate actions they have put in place to manage and mitigate the negative externalities arising from this pandemic [2]. Mainstreaming sustainability reporting is critical for the global recovery as organizations must acknowledge the impact they have on the planet positively and negatively. A key step of mainstreaming the reporting is to increase organizational transparency and standardize the data being reported, so that organizational activities can be evaluated in a fairer, more transparent, accountable, and equitable manner [3]. United Nations (UN) Secretary-General Antonio Guterres said, "We need to turn the recovery into a real opportunity to do things right for the future" [4]. This research examines how well for-profit and higher education institutions are reporting their sustainability efforts to improve the future. While it may seem like an unlikely choice for a comparison, examining these institutions seems natural given the research that has shown these two sectors are leading in sustainability efforts [5,6].

Standardized sustainability reporting can play a major part in an organization's accountability and transparency. Sustainability reporting that is based on environmental,

social, and governance metrics results in an evaluation process of measuring the impact of investments and business activities beyond the monetary value continues to gain traction [7]. It is becoming increasingly common as more private, for-profit companies recognize the benefits of assessing the efficiency and reducing consumption of resources, improving treatment of employees, and increasing engagement with the community, while simultaneously improving their reputation and public image [8]. The release of the United Nations Sustainable Development Goals 2030 Agenda heightened awareness of the tough environmental challenges that must be resolved in a collaborative manner. When organizations create social good, these efforts should be measured and results shown. On the other hand, sustainability reports can identify areas where improvement is warranted.

The Global Reporting Initiative (GRI) defined sustainability reporting as “an organization’s practice of measuring, disclosing, and being accountable to internal and external stakeholders by reporting publicly on its economic, environmental, and/or social impacts, and hence its contributions—positive or negative—towards the goals of sustainable development” [9]. In 2015 the United Nations General Assembly adopted 17 sustainable development goals (SDGs) for the global community along with 169 associated targets and 234 measurable indicators. These measures demonstrate the scale and ambition of the global plea and resolve for a better and more sustainable future. These SDGs and corresponding measurements provide the foundation and focal points for sustainability reporting of corporate business entities, non-governmental and nonprofit organizations, and government agencies.

Given the number of targets, it can be daunting for an organization to address all 17 SDGs. Instead, organizations are more likely to select and report on key metrics that are relevant to their work. In 1993, only 12% of the largest-cap companies included some form of sustainability information in their reports. That percentage has grown exponentially over the past 20 years as it has reached above 80% worldwide by 2019, with leading industries such as technology, retail, oil, healthcare, and automotive capping 100% reporting rates [10].

As more corporations release reports on their sustainability performance, a new leadership role emerges, the Chief Sustainability Officer (CSO). A study showed that the authority and responsibilities of CSOs have been increasing following the trend of the growing popularity of sustainability reporting [11]. It is also noted that a mass hiring of 31 CSOs took place in the year of 2020—a direct response to the outcry of stakeholders demanding environmental and social justice—and that grew the total number to 91 [12]. There is good reason to believe that more companies will follow suit and hire their own CSOs in the near future, especially as higher education institutions incorporate sustainability education into their curricula and make it even more visible on their own campuses.

Given the demand that stakeholders have for sustainability reporting from for-profit corporations and higher education institutions, this research seeks to compare the quality of the reporting carried out by leading organizations from these classifications. The top 50 corporations on the Fortune 500 list and the top 50 higher education institutions on the *U.S. News & World Report* global university rankings were examined to determine whether they offered a sustainability report. Of those institutions, 44 corporations and 21 universities provided sustainability reports, which were analyzed to determine which of the United Nations 17 SDGs were reported and how they were reported. The aim of this research is to determine whether the organizational leaders in sustainability have similar thinking and reporting of their efforts as well as to determine what sustainability topics are most commonly reported. The current research serves as an important step in sustainability reporting as little research has been published comparing how these two sectors present and discuss their work. The benchmarking from these results provides researchers with additional areas of inquiry to examine the differences in how for-profit organizations and higher education institutions present their sustainability efforts and which aspects of sustainability they minimize.

2. Literature Review

2.1. An Overview of Sustainability Reporting

Sustainability reporting (SR) frameworks have been mostly designed based on the missions that non-governmental and nonprofit organizations address. SR is a “new paradigm shift that is not only related to disclosure, but also integrates with the communication process between companies and stakeholders” [13] (p. 23). Sustainability accounting rule making has evolved over time, resulting in the proliferation of reporting rules that have improved the extent and scope of SR in GRI [14,15]. This makes a significant difference not only to collect consistent and complete information, but also to translate it into an appropriate unit of measure that can be reported and interpreted [16].

While sustainability reporting remains a voluntary act in the United States, the European Union made it mandatory that listed companies, financial institutions, and public-interest entities must comply with the Non-Financial Reporting Directive [17]. Even with directives in the European Union, organizations that report have abundant flexibility on how to collect data, which metrics to use, and which framework to follow. Despite being focused on the UN SDGs, the frameworks are not presented in a manner that makes them compatible with one another. This results in a lack of consistency in format that makes it difficult to compare reports and determine compliance, much less best practices in sustainable development [18].

The potential impact that reporting may have on the overall sustainability-related activities warrants a deeper dive into the current rigor and landscape of reporting across sectors. At present, public and nonprofit organizations are falling behind in SR, despite the social missions and impact they set out to achieve. Salamon et al. classified the accountability gap of nonprofits as one of the four key failures of philanthropic organizations [19]. Today, organizational transparency in the nonprofit sector is still missing. Reports are too focused on “the user needs of powerful funders, influenced by media attention, sometimes misleading or more in line with an impression management than providing an overall, unbiased picture of NGOs performance” [20] (p. 1295). Reporting frameworks such as GRI can play a significant normative role to guide immediate and short-term best practices [21].

Many professionals in charge of SR in the public sector criticized established frameworks for failing to educate how to report their efforts and for assuming there are shared definitions and measurements for different sustainable goals [22]. Frameworks also dismiss the internal motivations (e.g., public relations) organizations have for publishing these reports; research found that most SR efforts in the private sector are geared toward investors and other external stakeholders [23]. Despite lagging report totals from public and nonprofit sector organizations, public reporting is one of the main drivers for change management as it pertains to sustainability since it has the greatest ability to affect organizational culture [22].

Given the range of public sector stakeholders (e.g., taxpayers, public service users, voters, and employees), SR has the potential to contribute to increased transparency and accountability of the public organizations [24]. Research on mandatory SR showed a statistically significant and positive association between the adoption of the GRI guidelines and the level of transparency of nonfinancial disclosures and environmental sensitivity. Wachira et al. argued that “SR encourages transparency and reduces information asymmetries between organizations and their stakeholders; Integrated reporting, on the other hand, combines facets of SR but is oriented towards primarily fulfilling the information needs of investors” [25] (p. 613). Whether this result yields any promise for potential mandates on SR in the U.S. and other larger economies remains unknown. Nonetheless, there is evidence of organizational benefits concerning increased staff motivation and data management capacities, and SR can be valuable for governments as a learning, management, and communication tool [26].

2.2. Sustainability Reporting in Higher Education

Higher education institutions have a pivotal role in mainstreaming sustainability thinking within society [27]. Universities have been traditionally known as places where intellectual inquiry and advances in knowledge are paramount. Therefore, there is an expectation that universities would place much emphasis on SR to fulfill the proper nonfinancial disclosure for transparency and informed communication with various stakeholders [28]. Although there has been a considerable increase in the publication of sustainability reports in the corporate world in the past decade, SR in higher education institutions is still embryonic [28–30], and it is mainly seen in the struggle to fight against corruption and promote diversity and equitable work environments [31,32]. This appears to be the opposite in contrast to the listed private corporations where reports are mostly focused on environment-related information.

In the United States, SR in educational institutions exhibits similar traits with the private sector where large corporations are more likely to fund sustainability evaluation activities. Large R1 universities with vast endowments and a reputation to uphold tend to be more willing to disclose their sustainability results. SR in higher education is in an early stage due to the lack of an established and widely recognized SR framework [33]. Most schools' sustainability reports are chiefly loaded with feel-good stories but lacking substantial data metrics that can be measured and compared by following a standard reporting framework. SR activities are predominantly driven by internal motivations, with the majority of the efforts being mainly led by staff, and sometimes by students, which only leads to incremental changes, such as an increase in awareness of sustainability, and improvements in communication with internal stakeholders, while real change is absent due to the lack of stakeholder engagement, proper institutionalization, and measurable metrics [28,34].

While few universities are adequately accountable to their stakeholders and report on their sustainability performance [28], one can arguably compare public and private higher education institutions to private corporations. "Public higher education institutions may follow a normative or moral approach toward sustainability whereas private institutions pursue an enlightened self-interest approach toward sustainability," argued Sepasi et al. [30]. Moreover, Larran-Jorge et al. found that institutional leadership, external assurance of quality, and geographic region are the biggest determinants of SR in higher education [34]. Consistent support from top leadership is crucial to the process of SR, and practices of SR could be conceived as a tool for improving the process of accountability to society in the context of universities [35,36].

Like most corporations, higher education institutions do not provide externally audited sustainability reports. Information on sustainability performance is gathered by in-house staff. However, the existence of SR activities fosters a culture of sustainability in higher education that raises awareness of the issue within the organization and among its stakeholders [30]. Proactively disclosing social and environmental information can help schools avoid unwanted attention from critical voices.

Building legitimacy remains one of the key drivers of SR in higher education. SR adoption by the most elite universities indicates the urge to maintain their reputation and status, which would then attract better students and garner more financial contributions in the future. Elite schools also display their commitment to SR by offering graduate degrees.

2.3. Standardization of Sustainability Reporting

It can be overwhelming when it comes to choosing an SR framework for your organization. To make matters worse, the lack of compatibility and consistency in the SR practice offers little solace. The main problems of sustainability reporting are insufficient comparability of reporting, accuracy (lack of materiality, reliability, and validity of indicators), and lack of common approaches for its verification [37,38]. Whether it is GRI, SASB, or another reporting framework, it is high time that different sectors sit down at the same table and

come to a conclusion about which one they are going to use, so that reports can be easily interpreted and compared against each other with the same standards.

Standardization of SR is a necessary step toward greater adoption of the practice. Given the complexity of the topic and reporting one's sustainability efforts, it is easy to see how simply getting started would prove to be difficult. Research has argued that until a standardized approach to reporting is developed organizations will simply pick and choose what to report and dismiss the areas where they are failing [39]. There are areas of sustainability where an organization might not have significant impact based on their operations; however, leaving SR open-ended results in an environment where organizations are able to use public relations trickery to highlight their good efforts so that they overshadow potential poor efforts. With a standardized approach to reporting, organizations are held fully accountable for their work, and if an aspect of the standardized reporting is not applicable to the organization, then they are able to state it. Organizational stakeholders can then evaluate the claim and the overall report against their competitors to gauge how committed the organization is to sustainability [40].

2.4. Mandatory Sustainability Reporting

Higgins et al. argued that sustainability affects organizations from all sectors and that there is a need to adopt acceptable practices and reporting norms to discourage disguising unsustainable aspects of organizational operations among lengthy reports [41]. An examination of the GRI database suggests that a number of firms assumed to be likely to report based on their strategic or organizational characteristics do not, but a growing number of firms that seem unlikely to benefit from reporting do. Corporations that operate in industries with significant sustainability concerns and corporations that have recently undergone a negative incident are all more likely to disclose information on their performance on sustainability matters [8,42].

Deloitte noted that although SR can build trust and credibility among stakeholders that demand more accountability for sustainability efforts, organizations cannot manage what they fail to measure [16]. Recent high-profile incidents involving automotive, big-box retail, and energy and resources companies highlighted the growing attention to how listed companies are disclosing narrow sustainability information to stakeholders, especially investors. As a result, more corporations are releasing stand-alone reports that focus on corporate social responsibility issues around better conditions of employment, workplace culture, and community reinvestment. Since the launch of UN SDGs 2030 Agenda, both the GRI and the United Nations Global Compact frameworks suggested developing guidelines to assist in measuring sustainability performance so it can be reported in corporate sustainability reports [43]. Dumay et al. noted that established measures would identify gaps between the guidelines and practice [44]. While SR frameworks such as GRI are designed to demonstrate an organization's positive and negative impact, unsurprisingly, existing reports almost exclusively offer positive information—symbolic and ceremonial actions as opposed to true commitments to transparency. Additionally, the majority of reports were concentrated on environment-related green topics [45].

Organizations have enjoyed total liberty at choosing from a substantive variety of frameworks, which often leads to the questionable motive of the reporter and the lack of credibility of the report itself. It is often viewed as a mere afterthought or response toward the pressure from stakeholders and an attempt to gain a competitive advantage, as opposed to a demonstration of organizational accountability and transparency.

Buallay suggested that mandatory SR may have a negative impact on firms with already superior environmental, social, and governance disclosures as they may have to invest in other programs to distinguish themselves from competitors if SR were regulated [46]. However, although research found a positive correlation between legislation and corporate SR compliance, performance, and innovation [47], there is no significant relationship between a firm's economic performance and SR mandates [48]. These findings

may boost the confidence of organizations that are still on the fence about SR mandates as they do not hurt business and they bring about more innovation.

Many argued that mandates would create red tape, additional costs, and administrative burdens. Lobbyists seek to kill these mandates, or if that is not possible, weaken them as much as they can even in the European Union [49]. France, Italy, Germany, and the United Kingdom have implemented mandatory SR, albeit on different levels [27,50,51], as each country faces a unique political landscape and business governance. While the different member states are allowed some discretion with regard to the definition of the companies subjected to the rules, audit/attest requirements, and related penalties, each country must follow the general guidelines laid out in the Directive 2014/95/EU [52]. Such legal intervention should be regarded as a measure of last resort because SR will be most satisfactory and effective when it is done voluntarily by businesses out of the awareness that complete and trustworthy nonfinancial disclosure is a strategic necessity [53]. However, legal regulations and mandatory enforcement may also be crucial to holding reporting companies accountable, as voluntary measures often turn out to be ineffective when there is too much cherry-picking of metrics and withholding of information.

Even though the laws have not succeeded in a “name and shame” mode of operation, except in corporate governance where “comply or explain” requirements have generated strong pressure [54], it is a first step and a crucial step toward a more accountable, transparent, and sustainable organization structure. SR makes sustainable development practices more tangible, accessible, and measurable, and through that, best decisions and a course of action can more easily be made for continuous improvement [30].

2.5. Measuring Sustainability Reporting

The lack of comparability of reports due to the intrinsic differences between industries and how each is operating sustainably or not inhibited the effective legislation from easily outlining the individual risks to SR through tailored adoption approaches in an all-encompassing manner [51,55,56]. However, without mandates and regulations, how to ensure the level of transparency stakeholders expect from corporations remains a challenge.

Mandatory SR should not be merely perceived as additional administrative duties but an opportunity to communicate a company’s paths toward sustainability, guaranteeing transparency and greater stakeholder engagement. Continuous auditing should take place, especially in the modern world of big data; 100% of data versus a sample of data twice a year should be analyzed and audited to enhance the credibility of a sustainability report [57,58].

Debates have shifted away from “whether or not” to “how” to mandate SR [42]. Government mandates and independent auditing must join the game to make it fairer. So far, there has been very little legislation or regulation on sustainability reporting in the U.S. Transparency requirements are not the same as coercive laws that mandate changes in corporate practice, impose liability for harm, or provide rights of formal legal redress to victims of corporate malfeasance [59]. Nevertheless, by demanding more complete and high-quality reporting, a government mandate can influence internal decision-making and help external stakeholders, such as investors and not-for-profit organizations [7]. Policy makers should carefully design more flexible environmental regulations by imposing incentives for promoting innovation and intellectual capital, which may drive the proactive corporate compliance and in turn, benefit both the firm and the environment [47].

Various principles and frameworks offer support for the simplification, order, and uniformity of SR reporting. It ensures that reports that follow the same framework can easily be understood by accounting and sustainability professionals and compared side by side. Moreover, the frameworks are designed to hold an organization accountable by requiring compliance with a standardized format and key measurements. According to a recent survey, GRI remains the “most dominant global standard for sustainability reporting” [10] (p. 25). Currently, there are over 40,000 sustainability reports issued under the guidelines of GRI alone. However, GRI is not the only framework being used to report sustainability efforts.

In the United States, corporate accountants and risk-management professionals are more familiar with the Sustainability Accounting Standards Board, which was organized by investors in 2011 to bring more disciplined and organized reporting of sustainability performance disclosures by publicly traded companies while at the same time focusing on relevant financial material information. Other frameworks are more specific to certain developmental goals, such as the Carbon Disclosure Project or the Task Force on Climate-Related Financial Disclosures, or to specific industries (e.g., International Petroleum Industry Environmental Conservation Association).

Scholars have argued that the most all-encompassing framework for measuring sustainability is the United Nations' Sustainable Development Goals [60]. The United Nations Sustainable Development Goals consist of 17 areas that have a combined total of 169 targets to indicate progress for global sustainability efforts. These targets are further tracked by 232 unique measurements. Sustainable operations have become a global focal point as more stakeholders demand accountability from all organizations. Research has suggested that the United Nations approach should be adopted for sustainability reporting because it extends beyond individual nations' perspectives. Achieving and maintaining sustainable practices requires a global commitment and effort, and that necessitates having a neutral body to monitor these efforts [61]. Of all the various sustainability frameworks, only the United Nations Sustainable Development Goals can rise above nation- or region-specific standards.

Given the variety of frameworks that can be used to report on organizational sustainability initiatives and the range of 17 United Nations Sustainable Development Goals that could be discussed, the following research questions were developed to guide this study:

RQ1: How do Fortune 500 corporations and *U.S. News & World Report* best global universities design sustainability reports?

RQ2: Which frameworks are used in Fortune 500 corporations' and *U.S. News & World Report* best global universities' sustainability reports?

RQ3a: Which UN SDGs are discussed in Fortune 500 corporations and *U.S. News & World Report* best global universities' sustainability reports?

RQ3b: How are the UN SDGs presented in Fortune 500 corporations and *U.S. News & World Report* best global universities' sustainability reports?

3. Method

To analyze the sustainability reports from the 2021 Fortune 500 corporations and institutions on the *U.S. News & World Report's* Best Global Universities ranking list, a quantitative content analysis was conducted. This research chose these distinct types of institutions because the for-profit and higher education sectors have routinely been leaders in sustainability [5,6]. Given the impact of corporate social responsibility reporting on reputation management and profits, for-profit corporations have a significant interest in detailing their sustainability efforts. Educational institutions may not have a profit motive attached to their sustainability efforts but have long incorporated sustainability actions into their community relations efforts as part of their role in educating others about sustainability and improving the world [62]. While their motivations for being sustainability leaders are different, comparing for-profit and higher education institutions provides insights into what specific dimensions of sustainability these organizations value, and more importantly it reveals what aspects are being underreported.

For this research, a sustainability report was conceptualized as a stand-alone report, not integrated into an annual report or corporate financial report or included as part of a blog post or website article. Initially, the plan was to evaluate the 2020 sustainability reports from the top 50 organizations on each list. The researchers reviewed all 100 organizational websites to determine whether they provided a stand-alone sustainability report. While all of the Fortune 500 corporations discussed sustainability efforts, only 44 of the 50 (88%) had qualifying stand-alone sustainability reports. Fewer higher education institutions from the *USNWR* best global universities list ($n = 21$, 42%) had sustainability reports for 2020. It would have been desirable to have had greater representation of higher

education institutions, but the researchers decided to stick to the original plan of comparing the stand-alone sustainability reports from the Fortune 50 and the *USNWR* Best Global Universities lists because the sample size met the requirements for carrying out the Chi-square test [63,64].

Each sustainability report was evaluated based on design issues as well as specific questions about each of the 17 United Nations SDGs. For design issues, data were collected in regard to the format of the report, the SR framework used to report on organizational efforts, whether specific authors of the report were named, whether that was an executive letter written to lead the report, and whether the official logo of the United Nations SDGs was incorporated in the report. Each of the 17 United Nations SDGs was initially evaluated for whether it was included in the sustainability report; for those SDGs that were discussed, additional questions were measured to determine the overall tone addressing that SDG (positive, neutral, or negative), where it was located in the report (first third of the report, middle third, or final third), and what type of data visualization accompanied the SDG report (tables, charts, both or none). The full listing of 17 United Nations SDGs is shown in the codebook presented in Appendix A.

These additional variables relating to the SDGs were chosen to serve as potential indicators of the importance of each topic. For example, if an SDG was mentioned early in the report, it could be interpreted as evidence that it is more important. Different organizations and various industries all have their priorities. When an SDG appeared multiple times throughout the report, the first time it was mentioned counted as its location in the report.

The use of data visualizations was measured because the provision of a table or chart can catch a reader's eye and draw attention toward a section of the report. It also lends to an organization's decision to highlight the results rather than simply providing narrative discussion of the SDG outcomes.

Two coders were trained during a 120-min session, which ended with 13 sustainability reports (7 corporations and 6 universities) being coded by each of the two coders. Intercoder reliability scores for the design and SDG-related variables ranged from a low of $\alpha = 0.83$ to $\alpha = 0.94$ for all variables using Scott's π .

4. Results

Given the nature of the two lists, all 44 reports from the Fortune 500 corporations were from the United States. The sample from the *U.S. News & World Report* best global universities rankings were international and came from the following countries: Australia ($n = 4$), Canada ($n = 1$), China ($n = 1$), Netherlands ($n = 1$), Singapore ($n = 1$), Switzerland ($n = 1$), United Kingdom ($n = 3$), and United States ($n = 9$).

The first research question sought to compare the design of the sampled sustainability reports. Overall, 77% of the reports ($n = 50$) were made available in both PDF and web page formats, while 18% were offered only as PDFs ($n = 12$) and 5% were offered as websites ($n = 3$). When comparing the two types of organizations, corporations were more likely to make their reports accessible by providing both PDF and website versions of the reports ($\chi^2 = 21.0$, $df = 2$, $p < 0.001$). Corporations ($n = 41$, 93.2%) overwhelmingly made their SR available on both formats, compared to universities that had equal numbers of institutions that provided the information on both formats ($n = 9$, 42.9%) and only as a PDF ($n = 9$, 42.9%). Similarly, corporations ($n = 41$, 93.22%) were more likely to have sustainability reports that were 30 pages or longer compared with universities ($n = 11$, 61.1%). This difference was statistically significant ($\chi^2 = 9.71$, $df = 1$, $p = 0.002$).

Universities were more likely to state the author of the institutions' sustainability report compared to corporations ($\chi^2 = 11.0$, $df = 1$, $p < 0.001$). More than half of the university reports had a named author ($n = 11$, 52.4%) compared to a small percentage of corporate reports ($n = 6$, 13.6%). Although universities named the author of their reports, they did not have a cover letter to the report from the President of their institutions as often as corporations had their Chief Executive Officer write one ($\chi^2 = 24.8$, $df = 1$, $p < 0.001$). All

of the Fortune 500 reports had a letter authored by their leadership ($n = 44$, 100%) compared to only 11 (52.4%) of the higher education institutions.

The final design element that was measured was the logo of the UN SDG, which was seen as an acknowledgement of the most well-known list of sustainable development priorities. Similar proportions of corporations ($n = 28$, 63.6%) and universities ($n = 12$, 57.1%) incorporated UN SDG logos into their sustainability reports ($\chi^2 = 0.25$, $df = 1$, $p = 0.62$).

The second research question explored which sustainability framework was most often used in the reports. Analysis revealed that organizations frequently used more than one framework for their reporting—except for universities. One-third of universities ($n = 7$) did not have any framework for reporting their sustainability initiatives compared to only 6.8% of corporations ($n = 3$). This difference was statistically significant ($\chi^2 = 7.68$, $df = 1$, $p = 0.006$).

Turning to the frameworks that were used by both groups, GRI ($n = 35$, 53.8%) was used slightly more than SASB ($n = 34$, 52.3%). However, the largest overall group was the “Other framework” category ($n = 50$, 92.3%), though it should be noted that none of the specific frameworks used here were greater than either the GRI or SASB. Corporations ($n = 35$, 79.5%) were more likely than universities ($n = 2$, 9.5%) to use GRI ($\chi^2 = 28.4$, $df = 1$, $p < 0.001$). Similar results were found for SASB ($\chi^2 = 34.0$, $df = 1$, $p < 0.001$) as none of the universities used this framework and 77.3% ($n = 34$) of corporations did.

The third research question sought to determine which of the 17 United Nations Sustainable Development Goals were discussed in the organizations’ reports and how they were presented. Table 1 presents the overall tallies for these 17 topics as well as the Chi-square results to determine differences between the two groups. Several UN SDGs were reported in different proportion between Fortune 500 companies and higher education institutions, including SDG 5 *Gender Equality*, SDG 8 *Decent Work and Economic Growth*, and SDG 10 *Reduced Inequalities*, which suggested an extremely prominent significance ($p < 0.001$) between the two industries. In addition, SDG 16 *Peace, Justice, and Strong Institutions* ($p = 0.005$), SDG 14 *Life below Water* ($p = 0.013$) and SDG 9 *Industry, Innovation, and Infrastructure* ($p = 0.024$), SDG 2 *Zero Hunger* ($p = 0.26$), and SDG 17 *Partnerships for the Goals* ($p = 0.05$) also indicated strong statistical differences.

Table 1. The presence of the 17 United Nations Sustainable Development Goals in Sustainability reports overall and by institutional type.

Sustainable Development Goal	Overall Inclusion Yes (No)	Fortune 500 Corporations Yes (No)	USNWR Universities Yes (No)	χ^2 ($df = 2$)	p -Value
No Poverty	20 (36)	13 (24)	7 (12)	0.50	0.78
Zero Hunger	25 (31)	13 (22)	12 (9)	7.26	0.03
Health and Well-being	53 (8)	38 (4)	15 (4)	2.11	0.35
Quality Education	44 (12)	28 (9)	16 (3)	1.04	0.59
Gender Equality	48 (13)	41 (2)	7 (11)	26.5	<0.001
Clean Water	41 (20)	25 (15)	16 (5)	3.24	0.19
Clean Energy	51 (9)	32 (8)	19 (1)	2.77	0.25
Work and Growth	51 (11)	42 (2)	9 (9)	23.6	<0.001
Infrastructure	48 (12)	28 (11)	20 (1)	7.46	0.02
Reduced Inequalities	46 (15)	39 (4)	7 (11)	21.0	<0.001
Sustainable Cities	49 (11)	30 (10)	19 (1)	3.99	0.14
Consumption	62 (2)	41 (2)	21 (0)	1.50	0.47

Table 1. Cont.

Sustainable Development Goal	Overall Inclusion Yes (No)	Fortune 500 Corporations Yes (No)	USNWR Universities Yes (No)	χ^2 (df = 2)	p-Value
Climate Action	65 (0)	44 (0)	21 (0)	N/A	N/A
Life below Water	30 (30)	15 (24)	15 (6)	8.76	0.01
Life on Land	36 (25)	21 (20)	15 (5)	3.27	0.19
Strong Institutions	44 (16)	28 (15)	16 (1)	10.5	0.005
Partnerships	50 (13)	30 (12)	20 (1)	5.91	0.05

Note: Cell totals for may not total 65 for Overall, 44 for Fortune 500, and 21 for USNWR due to the researchers' ability to select "Undetermined" for inclusion in the sustainability report.

Table 2 further addresses the presentation of the United Nations SDGs by presenting the frequency counts for the remaining three variables—tone of the SDG discussion, its placement in the report, and the type of data visualization used. In looking at the tonal treatment of the narrative surrounding the UN SDGs, there was overwhelming positive support for all 17 topics when they were discussed. None of the SDGs were statistically different in the tone used to write about the efforts; *Life below Water* was the SDG that was the closest to reach statistical significance ($\chi^2 = 2.14$, $df = 1$, $p = 0.143$) with 100% of corporations ($n = 15$) and 86.7% of universities ($n = 13$) reporting positively about their efforts.

Table 2. Frequency counts of presentation variables for the 17 United Nations Sustainable Development Goals in sustainability reports overall.

SDG 1–17	Tone			Location			DV			
	+	N	–	F	Mid	L	T	Ch	Bo	No
1. No Poverty	100	N/A	N/A	60	25	15	50	5	20	25
2. Zero Hunger	100	N/A	N/A	60	28	12	40	4	16	40
3. Health and Well-being	100	N/A	N/A	58	36	6	38	11	28	23
4. Quality Education	96	2	2	41	39	20	50	5	18	27
5. Gender Equality	98	2	N/A	33	48	19	33	8	46	13
6. Clean Water	93	7	N/A	32	36	32	34	7	34	25
7. Clean Energy	98	2	N/A	49	31	20	29	12	45	14
8. Work and Growth	98	2	N/A	25	57	18	47	6	27	20
9. Infrastructure	98	2	N/A	42	31	27	31	13	37	19
10. Reduced Inequalities	100	N/A	N/A	31	54	15	33	9	41	17
11. Sustainable Cities	98	2	N/A	33	33	34	27	16	39	18
12. Consumption	98	2	N/A	27	36	37	26	18	40	16
13. Climate Action	99	1	N/A	43	18	39	26	11	51	12
14. Life Below Water	93	7	N/A	33	30	37	33	17	20	30
15. Life on Land	94	6	N/A	31	30	39	39	5	17	39
16. Strong Institutions	98	2	N/A	39	9	52	30	4	34	32
17. Partnerships	96	4	N/A	46	8	46	36	8	22	34

Note. + (Positive); N (Neutral); – (Negative); F (First 1/3); Mid (Middle 1/3); L (Last 1/3); T (Table); Ch (Chart); Bo (Both); No (None).

Looking at the placement of the SDGs in the institutions' reports, poverty, hunger, and health and well-being were the goals that were most likely to be featured in the first-third of the sustainability report. Finally, tables were the most common visual used to draw attention to the SDGs in the reports. The SDGs that were most likely to be featured with data visualizations were gender equality, clean energy, and climate action. The full Chi-square results for these presentation variables are shown in Appendix B.

5. Discussion

This research sought to determine how Fortune 500 corporations and higher education institutions on the *U.S. News & World Report* ranking of best global universities reported their sustainability efforts through official reports. Despite being seen as thought leaders, the globe's best universities are laggards in their sustainability reporting. Fortune 500 corporations are not only more likely to provide a report, but their reports are also more likely to be thorough and address more of the United Nations' Sustainable Development Goals. Corporations are more likely to have their executive leadership sign off on the report, while universities are simply more likely to state the specific authors of the report—and not have their presidents sign off on the report.

This research extends the understanding of sustainability reporting by exploring reports that fail to comply with GRI standards. Most published research on sustainability reports relies on those reports made available in the GRI database. However, given the voluntary nature of SR in the United States, many organizations do not comply with GRI standards to a satisfactory extent and thus are unable to have their reports included in the GRI Database. This research included official sustainability reports that cannot be found in such databases. There is variance across the 17 United Nations' SDGs as to how often topics are discussed; however, corporations and universities are generally only speaking positively about their efforts. Web-based reports often feature anecdotal stories and lack verifiable data metrics, which corroborates other studies that concluded voluntary sustainability reports rely on boilerplate and greenwash important concerns, which hides meaningful SR information from the public and government [55].

A unique contribution of this research is the rare examination of how higher education institutions discuss their SR performance. Higher education can and should play a pivotal role in creating and training future professionals in sustainability leadership, but their current efforts are largely more ornamental for marketing and recruiting purposes rather than critically addressing the range of UN SDGs. Despite the growth in sustainability programs of study in many campuses, universities fail to institutionalize sustainability across campus—leaving it in the hands of small, underfunded offices rather than placing it under the purview of university presidents' administrations.

Based on the results of this study, organizations must proactively start reporting true metrics on the UN SDGs, and sustainability reports must follow a standard framework for it to be useful. The updated "Linking the SDGs and the GRI Standards" covers all 17 UN SDGs and maps them against the GRI standards that apply for each. With the demonstration of the overlap of these two frameworks, there is greater evidence that a standardized framework would be useful because it makes it easier for organizations to use their reporting through the GRI standards to assess how they impact the SDGs [1]. Organizations need to consider several points of contention for their sustainability reports. First, they must decide whether a report should be concise or complete. There is some advantage for smaller organizations to concentrate on reporting what is most relevant to the services they are offering, as opposed to compiling data into thick reports nobody reads [26]. Standardizing SR by adopting a reporting framework and showing metrics that can be easily interpreted by the average public and sustainability professionals alike proves a good deal more effective than feel-good stories with no quantifiable information in facilitating communication with various stakeholders, initiating organizational change, and increasing accountability and transparency. The point of following a standard framework is to provide organizations with established guidelines to help cover the indicators needed to understand the sustainability efforts going on within the organization. It is impractical to ask organizations to provide meaningful yet thorough metrics on these efforts on their own without guidance.

What matters to the stakeholders is not always the amount of information being released, but how it is released. Completeness does not mean that a report must include all indicators in a framework but to provide a more balanced narrative. A balanced narrative is one that reports organizational accomplishments but also acknowledges the challenges

faced [26]. Even though organizations rarely like to admit their own failures, succeeding in sustainable operations means providing a full picture to public stakeholders so that change and innovation can be sought.

The next point that organizations must reflect on involves their relationships with stakeholders. When society feels that companies should act in a certain manner, but they fail to do so through their policies, distrust in the organization is fueled through shattered expectations [65]. Companies can avoid that distrust by following a standard framework that makes a report comparable and more easily interpreted—even when they face sustainability challenges. Using standard frameworks provides information on how data are gathered and calculated, and clear reporting can foster trust among organizational stakeholders.

Sustainability reporting boosts an organization's accountability and the public's awareness on multiple levels; however, the act of reporting itself is not a proxy for progress [66]. Most companies have complete discretion over what standard-setting body to follow and what information to include in their sustainability reports. Many large private corporations have benefited from disclosing information on sustainability metrics by following the GRI Standards, but others have self-selected efforts to report for show (e.g., greenwashing). Without policy to regulate the measurement or auditing requirements in the United States, reporters can cherry-pick which metrics to include and which to ignore or omit, which leaves room for insufficient reporting; misleading, opaque, and confusing information; and undermined quality of data.

A third key point that organizations must grapple with is that SR extends far beyond matters of the environment and climate change. These results found that all companies tend to talk about measures, programs, and initiatives they have created to combat climate change and the environment. We found that 100% of the samples examined touched upon SDG 13 Climate Action. Nevertheless, too much focus on that may diminish the credibility of a report, especially when there is no sufficient data prepared in accordance with a standard SR framework. To strike a more balanced tone with a report, it is crucial to shift part of the focus onto the social impact and internal governance, as they are more relevant to the health and happiness of people.

6. Conclusions

In the end, it is not so much which SR framework is utilized that makes a difference, but whether organizations act in a manner that has impact [44]. Sustainability initiatives across all organizational sectors are showing no signs of slowing down, and reporting expectations are increasing among stakeholders, including the general public and regulators, who are demanding more accountability and transparency in what organizations are doing to provide a better planet. SR must follow a standard framework and its metrics in order for its process and outcome to be credible and effective, and the tracking, measuring, and analyzing of data should be executed by sustainability and accounting instead of marketing and public relations professionals.

As with any research, limitations are inevitable. The sample ($N = 65$) of sustainability reports in this research is not representative of either the corporate or higher education sectors. Its size cannot produce sufficient evidence for generalization. Given that the purpose of this research is to examine and elucidate the potential SR behaviors and trends exhibited by top 50 Fortune 500 companies by revenue and the 50 best global universities at the height of COVID-19 pandemic, this research provides a glimpse into what was being done in 2020. To include additional universities in the higher education sample simply to increase the sample size does not solve the matter. A sampling frame that resulted in stand-alone sustainability reports from the top 50 corporations and the top 100 universities would have been imbalanced. To examine the top 100 from each would have also yielded a similar outcome. Universities, despite being leaders in sustainability education and advocacy, are not reporting the outcomes of their work to the extent that for-profit companies are. This does not attempt to provide definitive answers or exhaustive data for longitudinal or

comparative analyses by looking into previous years' sustainability reports to document longitudinal change in SR.

Ideally, the research would have compared global corporations with global universities. However, the researchers were unaware that Fortune 500 only lists U.S.-based companies. Given the time constraints for this study, it was not feasible to recollect data using the *Fortune Global 500* list, which could have made for better international comparisons.

That said, it is worth focusing on the U.S. companies alone because they share the same current circumstances where no clear law or mandates have been placed on SR practices. The comparison among these companies helps shed light on the reporting trends in the U.S., although the data analysis provided only a partial answer.

Future research can conduct empirical research on the metrics that different industries choose to use and the reasons why. Are organizations interested in creating a high level of awareness of the development challenges the society is facing, or is SR largely seen as a source of feel-good materials for marketing and public relations? For instance, Audrey Choi is the Chief Marketing Officer and the Chief Sustainability Officer at Morgan Stanley. There is nothing fundamentally wrong with combining the two roles; however, it is worth further determining what is the driving force of the sustainability reporting effort or sustainability effort overall at a firm—good publicity and prospects for investments or corporate accountability for sustainable development.

Future research can also study the Fortune Global 500, as SR is only voluntary in the U.S. There can be no accurate comparability without mandated reporting standards or telling who is leading the way and doing a better job at generating a wider social impact with their sustainability-centered business practices. It can be worthwhile to further compare the rigor and comprehensiveness of reports released by U.S. companies and global corporations in other countries.

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Appendix A

Table A1. Codebook for Content Analysis.

Codebook for Sustainability Report Content Analysis	
General	
Name	[Insert]
1. Check the correct category.	Fortune 500/U.S. News & World Report
2. Country of Origin	[Insert]
3. Sample SR Year	2020
4. In what format is the Sustainability Report?	PDF; Webpage; Both; No Report
5. [If PDF or Both selected], Length of report	≥30 p; <30 p
6. SR framework (Multiple choices allowed)	GRI; SASB; Other *; No framework **
7. Are lead authors mentioned?	Yes/No
8. CEO/Executive Letter (CSO/CEO/VP, etc)?	Yes/No
9. Are official logos of UN SDGs used?	Yes/No

Table A1. Cont.

Codebook for Sustainability Report Content Analysis	
General	
	UN SDGs (Is the goal covered?)
1. No Poverty	Yes/No/Undetermined ***
2. Zero Hunger	Yes/No/Undetermined
3. Good Health and Wellbeing	Yes/No/Undetermined
4. Quality Education	Yes/No/Undetermined
5. Gender Equality	Yes/No/Undetermined
6. Clean Water and Sanitation	Yes/No/Undetermined
7. Affordable and Clean Energy	Yes/No/Undetermined
8. Decent Work and Economic Growth	Yes/No/Undetermined
9. Industry, Innovation, and Infrastructure	Yes/No/Undetermined
10. Reduced Inequalities	Yes/No/Undetermined
11. Sustainable Cities and Communities	Yes/No/Undetermined
12. Responsible Consumption and Production	Yes/No/Undetermined
13. Climate Action	Yes/No/Undetermined
14. Life Below Water	Yes/No/Undetermined
15. Life on Land	Yes/No/Undetermined
16. Peace, Justice, and Strong Institutions	Yes/No/Undetermined
17. Partnerships for the Goals	Yes/No/Undetermined
	If yes to an SDG, the following questions apply:
a. Overall tone	Positive; Neutral; Negative
b. Where is this SDG located in the report?	Early; Middle; Late
c. What type of data visualization? Check one.	Tables; Charts; Both; None

Note. Due to the limitations of a table, the display logic in Qualtrics cannot be entirely shown. * Any framework or guidelines including UN SDGs and UNGC, etc. other than GRI and SASB. ** If it was not clearly stated in the report or undeterminable, it is treated as “no framework”. *** Selected if there is content that barely brushes on the topic, but no data.

Appendix B

Table A2. The Presence of the 17 United Nations Sustainable Development Goals in Sustainability Reports Overall and by Institutional Type.

Sustainable Development Goal	Tone $\chi^2, p\text{-Value}$ (df = 2)	Significant Difference in Tone χ^2	Location $\chi^2, p\text{-Value}$ (df = 2)	Significant Difference in Location χ^2	Data Visualization $\chi^2, p\text{-Value}$ (df = 3)	Significant Difference in Data Visualization χ^2
No Poverty [†]	N/A	N/A	$\chi^2 = 1.9, p = 0.39$	N/A	$\chi^2 = 3.30, p = 0.35$	N/A
Zero Hunger [†]	N/A	N/A	$\chi^2 = 2.18, p = 0.34$	N/A	$\chi^2 = 9.98, p = 0.019$	Corporations used data tables 69% of the time compared to only 33% of universities
Health and Well-being [†]	N/A	N/A	$\chi^2 = 2.78, p = 0.25$	N/A	$\chi^2 = 4.62, p = 0.20$	N/A
Quality Education	$\chi^2 = 3.67, p = 0.16$	N/A	$\chi^2 = 4.27, p = 0.12$	N/A	$\chi^2 = 3.36, p = 0.34$	N/A
Gender Equality	$\chi^2 = 5.98, p = 0.014$	Corporations were 100% positively focused while universities were 86% positive	$\chi^2 = 1.91, p = 0.39$	N/A	$\chi^2 = 7.63, p = 0.054$	N/A
Clean Water	$\chi^2 = 5.06, p = 0.03$	Corporations were 100% positively focused while universities were 81% positive	$\chi^2 = 0.01, p = 0.99$	N/A	$\chi^2 = 3.38, p = 0.34$	N/A
Clean Energy	$\chi^2 = 1.72, p = 0.19$	N/A	$\chi^2 = 0.96, p = 0.62$	N/A	$\chi^2 = 6.72, p = 0.08$	N/A
Work and Growth	$\chi^2 = 4.76, p = 0.029$	Corporations were 100% positively focused while universities were 89% positive	$\chi^2 = 0.69, p = 0.71$	N/A	$\chi^2 = 3.13, p = 0.37$	N/A

Table A2. Cont.

Sustainable Development Goal	Tone χ^2 , p -Value ($df = 2$)	Significant Difference in Tone χ^2	Location χ^2 , p -Value ($df = 2$)	Significant Difference in Location χ^2	Data Visualization χ^2 , p -Value ($df = 3$)	Significant Difference in Data Visualization χ^2
Infrastructure	$\chi^2 = 1.43, p = 0.23$	N/A	$\chi^2 = 0.62, p = 0.73$	N/A	$\chi^2 = 3.70, p = 0.29$	N/A
Reduced Inequalities †	N/A	N/A	$\chi^2 = 4.01, p = 0.14$	N/A	$\chi^2 = 4.16, p = 0.24$	N/A
Sustainable Cities	$\chi^2 = 1.61, p = 0.20$	N/A	$\chi^2 = 2.68, p = 0.26$	N/A	$\chi^2 = 2.39, p = 0.49$	N/A
Consumption	$\chi^2 = 1.98, p = 0.16$	N/A	$\chi^2 = 4.22, p = 0.12$	N/A	$\chi^2 = 8.89, p = 0.03$	Corporations used data tables while Universities used charts
Climate Action	$\chi^2 = 2.13, p = 0.145$	N/A	$\chi^2 = 2.51, p = 0.29$	N/A	$\chi^2 = 3.76, p = 0.29$	N/A
Life below Water	$\chi^2 = 2.14, p = 0.14$	N/A	$\chi^2 = 0.60, p = 0.74$	N/A	$\chi^2 = 3.51, p = 0.32$	N/A
Life on Land	$\chi^2 = 2.96, p = 0.085$	N/A	$\chi^2 = 0.2, p = 0.91$	N/A	$\chi^2 = 3.97, p = 0.27$	N/A
Strong Institutions	$\chi^2 = 1.79, p = 0.18$	N/A	$\chi^2 = 2.94, p = 0.23$	N/A	$\chi^2 = 5.52, p = 0.14$	N/A
Partnerships	$\chi^2 = 3.12, p = 0.077$	N/A	$\chi^2 = 0.54, p = 0.76$	N/A	$\chi^2 = 3.96, p = 0.27$	N/A

† Chi-square tests could not be run for tone due to 100% of reports addressing the topic positively. Note: N/A in the “Significant Difference” columns indicates there were no statistical differences between corporations and universities.

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